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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,578	11/06/2001	Yair Oren	20568-68741	4183
46363	7590	05/05/2005	EXAMINER	
MOSER, PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			WANG, QUAN ZHEN	
			ART UNIT	PAPER NUMBER
			2633	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/913,578	<b>Applicant(s)</b> OREN ET AL. <span style="float: right;">OK</span>	
	<b>Examiner</b> Quan-Zhen Wang	<b>Art Unit</b> 2633	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01/04/05.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1 and 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ballintine et al. (U.S. Patent US 6,594,047 B1).

Regarding claim 1, Ballintine teaches a node (fig. 1, node 102; figs. 3 -5) for a fiber optic communication network (fig. 1), the node comprising a first device (fig. 5, O-E receiver 501) for converting a first optical signal at a first frequency (fig. 4,  $\lambda_1$  input to 402) carried by the network into a first electrical signal (fig. 5, received data Och signal), a second device (fig. 5, Och processor 503, column 6, lines 26-33; Och processor 503 reads both claimed second and third devices) for demodulating from the first electrical signal first information modulated on the first optical signal (fig. 4,  $\lambda_1$ ), a third device (fig. 5, Och processor 503, column 6, lines 26-33; Och processor 503 reads both claimed second and third devices) for modulating on a second electrical signal second information (fig. 5, transmitted data Och signal), a fourth device (fig. 5, E-O transmitter 505) for converting the second information modulated on the second electrical signal into a second

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optical signal at the first frequency (fig. 4,  $\lambda_1$  output from 402), a fifth device (fig. 4, 402; fig. 5, E-O transmitter 505) for providing a third optical signal at a second frequency (fig. 4,  $\lambda_2$  output from 403), the third optical signal having third information modulated on it, and a sixth device (fig. 3, Mux 305) for multiplexing the second and third optical signals and placing the multiplexed second and third optical signals on the network (fig. 3, output signal 306), and a control device (fig. 5, controller 502) for processing control information included within the first information and providing within the second information control information adapted for use by another node (column 5, lines 34-67 and column 6, lines 1-26).

Regarding claims 2-5, Ballintine further teaches a fourth optical signal at the second frequency (fig. 4,  $\lambda_2$  input to 403), the apparatus further including a seventh device (fig. 5, O-E receiver 501) for converting the fourth optical signal into a third electrical signal, and an eighth device (fig. 5, Och processor 503, column 6, lines 26-33) for demodulating from the third electrical signal fourth information modulated on the fourth optical signal; a ninth device (fig. 5, E-O transmitter 505) for providing a fifth optical signal at a third frequency (fig. 4,  $\lambda_3$  output from 404), the fifth optical signal having fifth information modulated on it, the sixth device (fig. 3, MUX 305) multiplexing the second, third and fifth optical signals and placing the multiplexed second, third and fifth optical signals on the network; the apparatus further carries a sixth optical signal at the third frequency (fig. 4,  $\lambda_3$  input to 404), the apparatus further including a tenth device (fig. 5, O-E receiver 501) for converting the sixth optical signal into a fourth electrical signal,

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and an eleventh device (fig. 5, O/E processor 503, column 6, lines 26-33) for demodulating from the fourth electrical signal sixth information modulated on the sixth optical signal; the apparatus further including a seventh device (fig. 5, E-O transmitter 505) for providing a fourth optical signal (fig. 4,  $\lambda_3$  output from 404) at a third frequency, the fourth optical signal having fourth information modulated on it, the sixth device multiplexing the second, third, and fourth optical signals and placing the multiplexed second, third, and fourth optical signals on the network (fig. 3, output signal 306).

Regarding claims 6, and 21-24, Ballintine further teaches that a fiber optic network including the node of claim 1 and further including a second node (fig. 1, node 107), the second node including a first device for converting a first optical signal at a first frequency ( $\lambda_1$ ) carried by the network into a first electrical signal, the second node further including a second device for demodulating first information from the first electrical signal modulated on the first optical signal, the second node further including a third device for modulating second information on a second electrical signal, and the second node further including a fourth device for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency (column 3, lines 52-62).

Claims 7-8 are rejected for the same reason set forth for claims 2-5.

Regarding claim 9, Ballintine teaches a node for a fiber optic communication network, the node including a first device (fig. 5, 501) for converting a first optical signal at a first frequency (fig. 4,  $\lambda_1$ ) carried by the network into a first electrical signal, a second device (fig. 5, 503, column 6, lines

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26-33; Och processor 503 reads both claimed second and third devices) for demodulating first information from the first electrical signal modulated on the first optical signal, a third device (fig. 5, 503, column 6, lines 26-33; Och processor 503 reads both claimed second and third devices) for modulating second information on a second electrical signal, and a fourth device (fig. 5, 505) for converting the second information modulated on the second electrical signal into a second optical signal at the first frequency (fig. 4,  $\lambda_1$ ), and a control device for processing control (fig. 5, 502) information included within the first information and providing within the second information control information adapted for use by another node (column 5, lines 34-67 and column 6, lines 1-26).

Regarding claim 10, Ballintine further teaches the node of claim 9 wherein the network further carries a third optical signal at a second frequency (fig. 4,  $\lambda_2$  input to 403), further including a fifth device (fig. 5, 501) for converting the third optical signal into a third electrical signal having third information modulated on it.

Regarding claim 11, Ballintine further teaches that the node of claim 10 further including a sixth device (fig. 5, 503, column 6, lines 26-33) for modulating fourth information on a fourth electrical signal, and a seventh device (fig. 5, 505) for converting the fourth information modulated on the fourth electrical signal into a fourth optical signal at the second frequency (fig. 4,  $\lambda_2$  output from 403) and placing the multiplexed second and fourth optical signals on the network (fig. 3, output signal 306).

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Regarding claim 12, Ballintine teaches a network includes a closed loop optical fiber, one of the first-mentioned nodes and at least one of the second nodes coupled to the closed loop optical fiber (fig. 1, nodes 102 and 107).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ballintine et al. (U.S. Patent US 6,594,047 B1) in view of Chawki et al. (U.S. Patent US 5,576,875).

Regarding claims 13-16, Ballintine teaches a network includes a closed loop optical fiber, one of the first-mentioned nodes and at least one of the second nodes coupled to the closed loop optical fiber (fig. 1, 100) carrying multiple frequency signals ( $\lambda_1$ - $\lambda_n$ ,  $\lambda_{osc}$ ). Ballintine does not teach a network with two closed loop optical fibers as claimed. However, Chawki et al. teach (fig. 1b) an optical network with two closed loop optical fibers for carrying the first optical signal in opposite directions, each node being coupled to both optical fibers. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to apply the two-fiber loop taught by Chawki

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et al. to the network disclosed by Ballintine to provide for greater security of the network.

### ***Response to Amendment***

3. Applicant's arguments with respect to claims 1 and 9 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arecco et al (U.S. Patent US 5,903,371) disclose a transparent optical self-healing-ring communication network comprising add/drop nodes.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be




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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**M. R. SEDIGHIAN**  
**PRIMARY EXAMINER**

qzw  
04/28/2005